

On the Crystalline State of Polymers. I. The  
Crystallization of Polymers in the Polymerization Process

SOV/76-33-1-16/45

after melting (Ref 1). The polymerization process shows a reverse order (Fig), i. e. the higher the molecular weight of the polymer, the higher the  $\alpha_D$  on polymerization. In the second case the polymer radicals crystallize and a "chemical" growth of the crystals takes place by an accumulation of activated monomer molecules whereby the maximum  $\alpha_D$  is obtained. The crystallization of polymers with asymmetrical molecules (e.g. Polytrifluoro chloro ethylene (Ref 3)) leads to the formation of isotactic polymers during the polymerization process. In conclusion, the authors thanks T. N. Sarminskaya. There are 1 figure and 4 references, 2 of which are Soviet.

ASSOCIATION: Institut polimerizatsionnykh plastmass, Leningrad (Institute of Polymer ~~Plastics~~ Plastics, Leningrad)

SUBMITTED: June 20, 1957

Card 2/2

5(4)

AUTHORS:

Chegodayev, D. D., Bugorkova, N. A.

SOV/76-33-2-4/45

TITLE:

On the Crystalline State of Polymers (O kristallicheskom sostoyanii polimerov). II. The Crystallization of Polymers in the Process of Film Formation (II. Kristallizatsiya polimerov v protsesse plenkoobrazovaniya)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 2, pp 262 - 270 (USSR)

ABSTRACT:

The assumption that a crystallization of polymers by evaporation of the solvent is equivalent to a slow cooling of the melt (Ref 1) is refuted in this paper. The experiments were carried out using ftorlon, a fluorine-containing crystalline copolymer ( $M = 60000 - 120000$ ), as well as polytrifluorochloroethylene (ftoroplast-3), polytetrafluoroethylene (ftoroplast-4), and high and low-pressure polyethylenes. The ftorlon synthesis was developed in the NIIPP Laboratory under the direction of L. V. Chereshevich and S. G. Malkevich. In order to produce multi-layer ( $100\mu$  strong) polymer films various solvent mixtures were used. The swell rate of the films was measured in acetone vapor at  $20 \pm 0.2^\circ\text{C}$

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On the Crystalline State of Polymers. II. The Crystallization of Polymers in the Process of Film Formation SOV/76-33-2-4/45

using a quartz balance (Table). The porosity of the film was tested on ftorlon with nitric acid, since this wets the polymer well but does not dissolve it (Table). The polymer films (ftorlon, high and low pressure polyethylene) were obtained by pouring the solution onto water and drying the films which formed; the films were then studied under the electron microscope (Figs 2-4). The RMM-30 tensile-test machine was used to test mechanically the ftoroplast-3 and ftoroplast-4 (Figs 5-9). It was found that in film formation from solutions of polymers at lower temperatures a coarse crystalline structure forms in which amorphous sections are found in a tension condition and differ in fragility. These films possess a small degree of crystallization, poor mechanical properties, are unstable, swell quickly and strongly, and possess a high penetrability. These differ from polymer films which are obtained by a slow cooling of the melt and possess more positive properties. Because of the mentioned amorphous sections in the polymers their spheruliths do not have a continuous crystalline structure and exhibit a relatively small degree of crystalli-

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On the Crystalline State of Polymers. II. The Crystallization of Polymers in the Process of Film Formation SOV/76-33-2-4/45

zation. Under the electron microscope the crystallization shows a thickening and wrinkling of the film. An estimation of the size of the crystallite and the vitrification temperature of the amorphous polymer points can be made using the expansion curves of the polymers. The vitrification temperature of the amorphous sections of ftoroplast-3 was determined by I. A. Maygel'dinov using the elasticity modulus (Ref 11). Thanks are expressed to T. N. Sarminskaya and G. S. Robinson in closing. There are 9 figures, 1 table, and 13 references, 7 of which are Soviet.

ASSOCIATION: Institut polimerizatsionnykh plastmass Leningrad (Institute for Polymerization Plastics, Leningrad)

SUBMITTED: April 20, 1957

Card 3/3

PHASE I BOOK EXPLOITATION

SOV/5082

Chegodayev, D.D., Z.K. Naumova, and Ts.S. Dunayevskaya

Ftoroplasty (Fluoroethylenes) 2d enl ed. Leningrad, Goskhimizdat, 1960.  
190 p. Errata slip inserted. 15,000 copies printed.

Ed. (Title page): L.V. Chereshevich; Ed.: Ye. I. Shur; Tech. Ed.:  
Ye. Ya. Erlikh.

**PURPOSE:** This book is intended for technical and scientific personnel and designers in the chemical, refrigeration, food, pharmaceutical, electrical and electronic industries.

**COVERAGE:** The book deals with the development and application of fluoroethylenes in the Soviet Union. It contains data on the properties of fluoroethylenes and on methods of processing them. The material is based on research carried out at the NIIPM - Moskovskiy nauchno-issledovatel'skiy institut plasticheskikh mass (Moscow Scientific Research Institute of Plastics), where special methods for the fabrication of bellows, valves, and pipes are currently being developed.

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# Fluoroethylenes

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Manufacture of tetrafluoroethylene began in 1949 and manufacture of chlorotrifluoroethylene in 1951. The methods were developed at the NIIPP - Nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass (Scientific Research Institute of Polymerization Plastics) in Leningrad under the direction of the laboratory chief, L.V. Chereshevich. The main participants in this work mentioned are: V.A. Martyakova, A.V. Yegerova, V.A. Arlyuk, L.I. Gracheva, T.N. Zelenkova, V.I. Ivanova, A.A. Kuznetsova, N.Ye. Yavzina, N.A. Bugorkova, and K.A. Sivogorakova. There are no references.

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Fluoroethylenes

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Card 3/5

CHEGODAYEV, D.D., red.; FOMICHEV, A.G., red. izd-va; BELOGUROVA, I.A.,  
tekhn. red.

[Synthetic glues] Sinteticheskie klei; obzor. Leningrad, Lenin-  
gradskii Dom nauchno-tekhn. propagandy, 1961. 94 p.  
(MIRA 14:9)

(Glue)

CHEGODAYEV, D.D.; SEDLIS, L.V.; YEL'YASHEVICH, A.I.

Production of carbon fluorides in the U.S.A. Plast.massy  
no.12:59-64 '61. (MIRA 14:12)  
(United States--Carbon fluoride)

SHCHERBATENKO, V.V.; MIKULINSKAYA, L.R.; BEGANSKAYA, L.S.; CHERESHKEVICH, L.V.;  
CHEGODAYEV, D.D.; YAVZINA, N.Ye.; GRINEVICH, K.P.

Investigating the possibility of bread baking in molds coated with  
polymeric materials. Trudy TSNIKHHP no.10:82-86 '62.

(MIRA 18:2)

STREL'TSOV, Konstantin Nikolayevich; CHEGODAYEV, D.D., red.;  
TOMARCHENKO, S.L., red.; FOMKINA, T.A., tekhn. red.

[Pressure and vacuum forming methods of processing thermo-  
plastics] Pnevmaticheskaya pererabotka termoplastov. Pod  
red. D.D.Chegodayeva. Leningrad, Goskhimizdat, 1963. 174 p.  
(MIRA 16:7)

(Plastic--Molding)

L 43152-66 EWT(m)/EWP(j)/T IJP(c) WW/RM

ACC NR: AR6020542

(A)

SOURCE CODE: UR/0081/66/000/001/S005/S005

AUTHOR: Chegodayev, D. D.

TITLE: Effect of crystallinity on the properties of fluoroplasts

SOURCE: Ref zh. Khim, Part II, Abs. 1527.

REF SOURCE: Sb. Tezisy dokl. Vses. Konferentsii po khimii ftororgan. soyedineniy. Novosibirsk, 1964, 29-30

TOPIC TAGS: fluorinated organic compound, crystalline polymer

ABSTRACT: The majority of fluorine-containing polymers (FP) are highly crystalline. The crystallinity determines the basic physicochemical properties, which in some respects differ markedly from the properties of other polymers. When the FP are subjected to thermal treatment, the crystallinity changes. A characteristic feature of FP is their relatively slow crystallization rate. Copolymerization may be used to impair the crystal structure. The creation of a branched polymer chain leads to a sharp decrease in the crystallization rate. The crystallinity of the polymers affects their solubility, which increases with the amorphousness. Processes of film formation from solutions of crystalline polymers take place with certain specific characteristics. A. Sorokin. [Translation of abstract]

SUB CODE: 11

Card 1/1 MLP

ACCESSION NR: AP4034712

8/0152/64/000/004/0055/0059

AUTHOR: Chegodayev, F. A.; Klimenok, B. V.

TITLE: Effect of the concentration of n-paraffins in a hydrocarbon mixture on complex formation with urea in aqueous solution

SOURCE: Izv. Neft/ i gaz, no. 4, 1964, 55-59

TOPIC TAGS: paraffin urea complex, complex formation, thermographic analysis, induction period, deparaffination, n paraffin hydrocarbon separation

ABSTRACT: Complex formation between n-paraffinic hydrocarbons and urea using aqueous solutions of urea was studied by the thermographic method described by Klimenok, B. V. and Pirkis, L. N. (Sb. trudov UENI, vy\*p. 1, 1956) in which the complex forming reaction is run under adiabatic conditions and is measured by increase in temperature. The induction period is a characteristic peculiarity of complex formation between n-paraffins and urea in aqueous solution; it is very sensitive to changes in working conditions. In crudes containing less than 30% n-paraffins (which corresponds to the content of complex forming components in petroleum fractions be deparaffinated) the induction period is not large (20-30

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ACCESSION NR: AP4034712

min.), but is sufficient to be accurately determined. The length of the induction period depends on the concentration of the complex-forming component in the crude, rapidly decreasing as concentration increases. Complex will not form even with a saturated urea solution when n-paraffin concentration is below about 5%. Rate of complex formation increases almost linearly with increase in cetane concentration in the crude. The nature of the diluent has little effect on the complex formation characteristics. Orig. art. has: 4 figures.

ASSOCIATION: Ufimskiy neftyanoy institut (Ufimsk Petroleum Institute)

SUBMITTED: 16Jan64

ENCL: 00

SUB CODE: FP, OC

NO REF SOV: 004

OTHER: 000

Card 2/2

L 15739-65 EWT(m)/EPE(c)/EWP(j) Pc-4/Pr-4 SSD/AFWL RM  
ACCESSION NR: AP4043906 S/0152/64/000/007/0055/0058

AUTHOR: Chegodayev, F. A.; Klimenok, B. V.

TITLE: Concentration effect of urea in water solution on complex  
formation with normal paraffins <sup>13</sup>

SOURCE: IVUZ. Neft' i gaz, no. 7, 1964, 55-58

TOPIC TAGS: urea, normal paraffin, urea normal paraffin complex,  
urea n cetane complex, induction period, thermal effect

ABSTRACT: Because of the contradictions in existing statements on the role of solid urea in the complex formation with normal paraffins, a study was undertaken to determine whether solid urea participated in the formation of such complexes. The effect of the concentration of urea dissolved in water and of excess solid urea was studied in a system consisting of a hydrocarbon and water phase, by a method described by the author in an earlier study (Neft' i gaz, 4, 1964). The hydrocarbon phase consisted of a mixture of n-cetane (24% by volume) and decalin; the water phase had a urea concentration varying from 0.85 to 1.5. The volumes of the phases were maintained at

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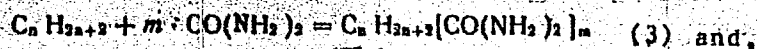
L 15739-65

ACCESSION NR: AP4043906

a constant level. The induction period, thermal effect, and maximum rate of temperature rise determined from thermograph measurements are shown in Fig. 1 of the Enclosure. From these curves and from the formulas

$$I.P. = \frac{0,238}{(N_{\text{Cetane}}^{0,0284})^{1,76}} \quad (1),$$

$$I.P. = \frac{2,15 \cdot 10^{-9}}{(N_{\text{urea}} - 0,178)^{0,67}} \quad (2) \text{ where } N \text{ is the molar fraction}$$



where m, the molar ratio of urea to normal paraffin, is  $0.653n + 1.51$  (n is the number of c atoms in the normal paraffin molecule), it was concluded that the concentration of urea in water solution strongly

Cord 2/4

L 15739-65

ACCESSION NR: AP4043906

affects the kinetics of complex formation of normal paraffins with urea. With an increase in the concentration of dissolved urea, the induction period decreases but the rate and thermal effect of complex formation increases. Extrapolation of curve 2 (Fig. 1) shows that at urea concentrations below 0.6, the formation of the complex does not take place. The complex formation involves only dissolved urea; the solid urea serves as a source of urea in the solution. Orig. art. has: 2 figures.

ASSOCIATION: Ufimskiy nef'tyanoy institut (Ufa Petroleum Institute)

SUBMITTED: 23Jan64

ENCL: 01

SUB CODE: GC, TD

NO REF SOV: 002

OTHER: 003

Card 3/4

L 15739-65

ACCESSION NR: AP4043906

ENCLOSURE 01

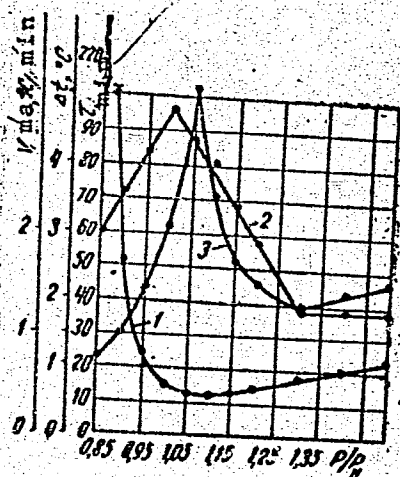


Fig. 1. Cetane concentration effect on complex formation;

1 - i. p.; 2 - temperature rise;  
3 - maximum rate of temperature rise.

Card 4/4

L 50336-65 EWT(m)/EPF(c)/EWP(j)/T/EWA(c) Pc-4/Pr-4 RM  
 ACCESSION NR: AP5009023 UR/0152/65/000/003/0051/0054

27  
 26  
 B

AUTHOR: Chegodayev, F. A.; Klimenok, B. V.

TITLE: Mechanism of complex formation during the interaction of n-paraffin hydrocarbons with an aqueous urea solution

SOURCE: IVUZ. Neft' i gaz, no. 3, 1965, 51-54

TOPIC TAGS: petroleum refining, hydrocarbon purification, paraffin hydrocarbon, urea complex, thermogram

ABSTRACT: A mixture of n-~~octane~~ with decalin (24% octane by vol.) and a saturated aqueous solution of urea (54.6% urea by wt.) at 25°C were used to study the kinetics of complex formation under various conditions of stirring. Thermograms of all the experiments were recorded. The following conclusions were reached: stirring does not affect the rate of complex formation during the main period, because this rate is determined by the frequency of fluctuational distortions of the surface and by the specific rate of complex formation, which are independent of stirring; the induction period of complex formation is practically independent of the stirring rate in the absence of resins; and decreases with increasing stirring rate when resins are present; the maximum rate of complex formation increases with increasing stirring rate; in the presence of resins, the increase in

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L 50336-65

ACCESSION NR: AP5009023

the rate of complex formation during the main period is more rapid. All these phenomena are explained in terms of a mechanism proposed by the authors. Orig. art. has: 4 figures and 1 formula.

ASSOCIATION: Ufimskiy neftyancy institut (Ufa Petroleum Institute)

SUBMITTED: 23Apr64

ENCL: 00

SUB CODE: FP, OC

NO REF SOV: 002

OTHER: 001

*me*  
Card 2/2

CHEGODAYEV, M.V., inzhener; GERMAN, A.M., inzhener; PAVLOV, P.T., inzhener.

Demonstration building of apartment houses with walls made of large  
silicate blocks. Nov.tekh.i pered.op.v stroi. vol.19:8-13 Ag '57.  
(MIRA 10:10)

(Apartment houses) (Building blocks)

KHLEBNIKOV, Ye.L. professor; ANDREYEV, O.V., kandidat tekhnicheskikh nauk; BEGAM, L.G., kandidat tekhnicheskikh nauk; BERG, O.Ya., kandidat tekhnicheskikh nauk; GAMAYUNOV, A.I., kandidat tekhnicheskikh nauk; DUCHINSKIY, B.N., kandidat tekhnicheskikh nauk; KAZEV, I.I., kandidat tekhnicheskikh nauk; KROKHIN, B.F., kandidat tekhnicheskikh nauk; LUGA, A.A., kandidat tekhnicheskikh nauk; LYALIN, N.B., kandidat tekhnicheskikh nauk; MEL'NIKOV, Yu.L., kandidat tekhnicheskikh nauk; POL'YEVKO, V.P., kandidat tekhnicheskikh nauk; PROKOPOVICH, K. G., kandidat tekhnicheskikh nauk; STRELETSKIY, N.N., kandidat tekhnicheskikh nauk; TYULENEV, Ye.A., kandidat tekhnicheskikh nauk; KHROMETS, Yu.N., kandidat tekhnicheskikh nauk; SHELESTENKO, L.P., kandidat tekhnicheskikh nauk; SHPIRO, G.S., kandidat tekhnicheskikh nauk; YAPOSHENKO, V.A., kandidat tekhnicheskikh nauk; ZELEVICH, P.M., inzhener; CHEGO-DATEV, H.N.; BOEROVA, Ye.N., tekhnicheskiiy redaktor.

[Technical specifications for designing bridges and pipes for railroads of a normal gauge (TUPM-56). Effective July 1, 1957 by order of Ministry of Means of Communication and the Ministry of Transportation Construction, September 15, 1956] Tekhnicheskie usloviia proektirovaniia mostov i trub na shelesnykh dorogakh normal'noi kolei (TUPM-56). Vvedeny v kachestvo vremennykh s 1 iuliia 1957 g. prikazom Ministerstva putei soobshcheniia i Ministerstva transportnogo stroitel'stva of 15 sentyabrya 1956 g. No.250/TsZ/213. Moskva, Gos.transp.zhel-dor.isd-vo, 1957. 221 p. (MLRA 10:5)

1. Russia (1923- U.S.S.R.), Ministerstvo putei soobshcheniya. (Railroad bridges--Design)

*CHEGODAYEV, N.N.*

FILYASOV, K.A., otvetstvennyy za vypusk; VAKHTUROV, A.N., red.; SOLOV'YEV, I.P., red.; SADOVSKIY, G.L., red.; SUTYRIN, M.A., red.; KHIZHIN, A.V., red. [deceased]; CHEGODAYEV, N.N., red. [deceased]; GORCHAKOV, G.N., tekhn.red.

[Regulations for inland navigation in the U.S.S.R.] Pravila plavaniia po vnutrennim vodnym putiam SSSR. Vvedeny f deistvie prikazom MRF no.212 ot 28 iulia 1945 g. Dop. i izmeneniia vvedeny v deistvie prikazom MRF no. 314 ot 14 oktiabria 1947 g. Izd. 8-oe, stereotip. Moskva, Izd-vo "Rechnoi transport," 1958. 197 p. (MIRA 11:5)

1. Russia (1923- U.S.S.R.) Ministerstvo rechnogo flota.  
(Inland navigation--Laws and regulation)

BEGAN, L.G.; ZELEVICH, P.M.; CHEGODAYEV, N.N.; LISHTVAN, L.L.

Determining the coefficient of scouring under bridges. Avt.dor. 24  
no.2:25-26 P : 61. (MIRA 14:3)

(Erosion) (Bridges—Foundations and piers)

CHEGODAYEV, N.N., starshiy nauchnyy sotrudnik, otv. za vypusk;  
VASIL'YEVA, N.N., tekhn.red.

[Instructions for calculating runoff from small basins]  
Instruktsiia po raschetu stoka s malykh basseinov (VSN63-61).  
Moskva, Vses.isdatel'sko-poligr.ob"edinenie M-va putei soobshche-  
niia, 1962. 69 p. (MIRA 15:5)

1. Russia (1923- U.S.S.R.) Ministerstvo transportnogo  
stroitel'stva. 2. Vsesoyuznyy nauchno-issledovatel'skiy  
institut transportnogo stroitel'stva (for Chegodayev).  
(Runoff)

BEGAM, L.G., kand.tekhn.nauk; CHEGODAYEV, N.N.

New instructions on calculation of the flow from small basins.  
Transp. stroi. 12 no.5:61 My '62. (MIRA 15:6)  
(Runoff)

PETROV, M.A.; NORMAN, E.A.; VOLODIN, A.P.; DENISOV, V.A.;  
 KOCHKONOGOV, V.P.; BEGAM, L.G.; BARANOV, M.A.; TAVLINOV,  
 V.K.; YENIKEYEV, G.Sh.; BARANOVA, A.I.; KUDRYAVTSEV,  
 G.P.; MALYAVSKIY, B.K.; CHEGODAYEV, N.N.; SURIN, V.S.;  
 GONIKBERG, I.V., retsenzent; ENGEL'KE, V.A., retsenzent;  
 KHRAPKOV, V.A., retsenzent; AL'PERT, G.A., retsenzent;  
 ALEKSEYEV, B.N., retsenzent; SKLYAROV, A.A., retsenzent  
 ALEKSEYEV, Ye.P., retsenzent

[Railroad surveying; reference and methodological hand-  
 book] Izyskaniia zheleznnykh dorog; spravochnoe i metodi-  
 cheskoe rukovodstvo. Moskva, Transport, 1964. 495 p.  
 (MIRA 18:1)

1. Babushkin. Vsesoyuznyy nauchno-issledovatel'skiy in-  
 stitut transportnogo stroitel'stva. 2. Leningradskiy gosudarstvennyy proyektno-izyskatel'skiy institut Gosudarstvennogo proizvodstvennogo komiteta po transportnomu stroitel'stvu SSSR (for Gonikberg, Engel'ke, Khrapkov).
3. Sibirskiy gosudarstvennyy proyektno-izyskatel'skiy institut Gosudarstvennogo proizvodstvennogo komiteta po transportnomu stroitel'stvu SSSR (for Alekseyev, YeP.).
4. Moskovskiy gosudarstvennyy proyektno-izyskatel'skiy institut Gosudarstvennogo proizvodstvennogo komiteta po transportnomu stroitel'stvu SSSR (for Al'pert).

USSR/Cultivated Plants - Commercial. Oil-Bearing. Sugar-Bearing.

M-5

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91750

Author : Chegodayev, Ye., Belousov, P.

Inst : -

Title : From the Practice of Square-Pocket Cotton Planting in Azerbaydzhan.

Orig Pub : Khlopkovodstvo, 1958, No 4, 27-30.

Abstract : No abstract.

Card 1/1

CHEGODAYEV, V.

Voluntary city committee at work. Voen.znan. 39 no.10:15-16  
0 '63. (MIRA 16:11)

1. Predsedatel' Kazanskogo vneshtatnogo gorodskogo komiteta Dobro-  
vol'nogo obshchestva sodeystviya armii, aviatsii i flotu.

CHEGOLIN, P.M.

124-11-13315

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr 11, p 145 (USSR)

AUTHORS: Pukhov, G. Ye., Ilyenko, O. V., Chegolin, P. M.

TITLE: Electrical Simulation of a Flexible Bar.  
(Elektricheskiye modeli izgibayemogo sterzhnya.)

PERIODICAL: V sb.: Elektr. modelirovaniye balok i ram. Taganrog, 1956, pp 17-21

ABSTRACT: Bibliographic entry.

Card 1/1

SOV/124 58-4-4682

Transaltion from: Referativnyy zhurnal, Mekhanika. 1958, Nr 4. p 143 (USSR)

AUTHOR: Chegolin, P. M.

TITLE: The Application of the Electromechanical Analog Method to the Solution of Compound Bending of Bar Systems (Primeneniye metoda elektromekhanicheskikh analogiy k resheniyu zadach slozhnogo izgiba sterzhnevnykh sistem)

PERIODICAL: V sb.: Elektr. modelirovaniye balok i ram. Taganrog, 1956, pp 22-27

ABSTRACT: The article shows that for the design of bars and beams subjected to the simultaneous action of transverse and longitudinal forces it is possible to employ electric analogs consisting of electric triodes.

1. Beams--Design
2. Beams--Simulation
3. Electrical networks

Reviewer's name not given

Card 1/1

CHEGOLIN, P.M.

124-11-13136

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr. 11, p 124 (USSR)

AUTHOR: Chegolin, P. M.

TITLE: Investigation of the Frequency Characteristics of Beams and Frames  
by Means of an Electrical Analog Simulator. (Issledovaniye chastot-  
nykh svoystv balok i ram metodom elektricheskogo modelirovaniya)

PERIODICAL: V sb.: Elektr.modelirovaniye balok i ram. Taganrog, 1956, pp 72-98

ABSTRACT: Bibliographic entry.

Card 1/1

CHEGOLIN, P. M., Cand Tech Sci -- (diss) "Determination of the <sup>natural</sup> ~~proper~~ frequencies of flat girders and frames by the method of electrical modeling." Taganrog, 1957. 13 pp  
(Min of Higher Education USSR, L'vov Polytechnic Inst),  
200 copies (KL, 1-58, 119)

- 69 -

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 10, p 111 (USSR) SOV/124-58-10-11478

AUTHOR: ~~Chegolin, P.M.~~

TITLE: An Electrical Analog for Determination of the Natural Frequencies of Beams and Frames (Elektricheskaya model' dlya opredeleniya sobstvennykh chastot balok i ram)

PERIODICAL: V sb.: Mezhvuz. konferentsiya po primeneniyu modelirovaniya v elektrotekhn. zadachakh i matem. modelirovaniya. Moscow, 1957, p 171-172

ABSTRACT: Bibliographic entry

Card 1/1

CHEGOLIN, P.M.

AUTHOR PUKHOV G.Ye., Dr. techn. Prof., IL'YENKO O.V., Ing., PA - 3104  
CHEGOLIN P.M., Ing.

TITLE Electrical Models for a Bendable Beam.  
(Elektricheskiye modeli izgibayemogo sterzhnya -Russian)

PERIODICAL Elektrichestvo, 1957, Vol 7, Nr 5, pp 45 - 47, (U.S.S.R.)  
Received 6/1957 Reviewed 7/1957

ABSTRACT Several different electrical models of a bendable beam were proposed. These models do not have negative resistances and are therefore free of the defects which are usually connected with the electronic amplifier provided models. One of the schemes is, because of the unsymmetry in regard to the longer axis, usable only for modelling in those beam systems which do not produce a closed current system. There is also a system shown which is symmetrical in regard to the longer axis. A scheme without negative resistance can be maintained by means of a contact closing of quadripoles from resistances with an ideal transformer, whereby the transformer coefficient is 1:1.  
(With 6 ill. and 3 Slavic references)

ASSOCIATION Radio Technical Institute of Taganrog

PRESENTED BY

SUBMITTED 13.4.1956

AVAILABLE Library of Congress

Card 1/1

CHEGOLIN, P.M., kand.tekhn.nauk

Electrical similitude system for complex bent conical beams.

Trudy RISI no.11:68-70 '58.

(MIRA 13:5)

1. Taganrogskiy radiotekhnicheskiy institut.  
(Girders--Electromechanical analogies)

CHEPOLIN, P.M., kand.tekhn.nauk:

Comparing methods of the dynamics of structures with the theory  
of calculating electric circuits. Trudy RISI no.11:76-80 '58.  
(MIRA 13:5)

1. Taganrogskiy radiotekhnicheskiy institut.  
(Structures, Theory of)  
(Electric circuits)

PUKHOV, G. Ye., prof., doktor tekhn.nauk; CHEGOLIN, P.M., kand.tekhn.nauk

Electric analyzers for beams with varying cross sections. *Trudy*  
RISI no.11:92-102 '58. (MIRA 13:5)

1. Taganrogskiy radiotekhnicheskiy institut.  
(Girders--Electromechanical analogies)

CHEGOLIN, P.M., kand.tekhn.nauk

Electric analyzers for finite-difference equations of bent rods.  
Trudy RISI no.11:103-123 '58. (MIRA 13:5)

1. Taganrogskiy radiotekhnicheskiy institut.  
(Elastic rods and wires--Electromechanical analogies)

18.8200

1327 4016

<sup>28206</sup>  
S/194/61/000/005/028/078  
D201/D303

AUTHOR: Chegolin, P.M.

TITLE: Electrical simulation of free oscillations of thin-walled rod structures

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 5, 1961, 34-35, abstract 5 B247 (Tr. 1-y mezhvuz. nauchno-tekhn. konferentsii po elektr. modelirovaniyu zadach stroit. mekhan., soprotivleniya materialov i teorii uprugosti, B.m. Novocherk. politekhn. in-t, 1960, 166-170)

TEXT: Using differential equations describing oscillations of a thin-walled rod, whose cross-section has 2 axes of symmetry, 2 circuits are found of electric four-pole analogues for torsional and flexural oscillations. In order to determine the frequency spectrum of a rod system, an electric analogue circuit is built from such four-poles. From this circuit, when excited by a generator,

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Electrical simulation...

28206  
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D201/D303

consecutive frequencies of free oscillations are determined from  
consecutive resonance of current and voltages. 7 references.  
[Abstracter's note: Complete translation]

41

Card 2/2

KEROPYAN, K.K., prof., doktor tekhn. nauk, red.; PUKHOV, G.Ye., prof., doktor tekhn. nauk, red.; UGODCHIKOV, A.G., prof., doktor tekhn. nauk, red.; SADETOV, S.Ya., dots., kand. tekhn. nauk, red.; GUNKIN, I.I., assistant, red.; CHEGOLIN, P.M., dots., kand. tekhn. nauk, red. (Minsk)

[Proceedings of the Inter-University Conference on Electric Modeling of Problems of Structural Mechanics, Theory of Elasticity, and Strength of Materials] Trudy Mezhvuzovskoi nauchno-tekhnicheskoi konferentsii po elektricheskomu modelirovaniu zadach stroitel'noi mekhaniki, teorii uprugosti i soprotivleniya materialov. Pod red. K.K. Keropyana i A.G. Ugodchikova. Novocherkassk, Rostovskii inzhenerno-stroitel'nyi in-t, 1962. 176 p. (MIRA 17:4)

1. Mezhvuzovskaya nauchno-tekhnicheskaya konferentsiya po elektricheskomu modelirovaniyu zadach stroitel'noy mekhaniki, teorii uprugosti i soprotivleniya materialov. 2d, Rostov-na-Donu, 1962. 1. 2. Rostovskiy-na-Donu inzhenerno-stroitel'nyy institut (for Keropyan, Sadetov, Gunkin). 3. Chlen-korrespondent AN Ukr.SSR i Vychislitel'nyy tsentr AN SSSR (for Pukhov).
4. Gor'kovskiy inzhenerno-stroitel'nyy institut (for Ugodchikov).

CHEGOLIN, P.M.; BOGDANOV, V.S.

Automatic photoelectric decoder of printed information. Izv.  
vys.ucheb.zav.; prib. 5 no.6:58-66 '62. (MIRA 15:12)

1. Ryazanskiy radiotekhnicheskiy institut. Rekomendovana kafedroy  
priborov upravleniya i vychislitel'noy tekhniki.  
(Electronic data processing)

CHEGOLIN P M

PHASE I BOOK EXPLOITATION

SOV/6498

Keropyan, K. K., Doctor of Technical Sciences, Professor, and P. M.  
Chegolin, Candidate of Technical Sciences, Professor

Elektricheskoye modelirovaniye v stroitel'noy mekhanike (Electrical  
Analog Computation in Structural Mechanics) Moscow, Gosstroyizdat,  
1963. 390 p. Errata slip inserted. 5000 copies printed.

Scientific Ed.: O. V. Luzhin, Candidate of Technical Sciences,  
Docent; Ed. of Publishing House: I. S. Borodina and B. A. Begak;  
Tech. Ed.: Z. S. Mochalina.

PURPOSE: The book is intended for design engineers, scientific  
workers, aspirants, and students concerned with electrical analog  
computation.

COVERAGE: The fundamental principles of electric-circuit analysis  
of problems in the strength of materials and structural mechanics  
developed during the last two decades in the USSR and elsewhere

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Electrical Analog (Cont.)

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are discussed. The results of known investigations in this field are summarized and generalized. Some of these investigations are published for the first time. Certain electric circuits in which the distribution of currents and voltages corresponds to the distribution of the force and deformation parameters in a framework are studied. The arrangement and working principles of the following electrical analog computers used by design organizations are described in chapter 7. 1) The ЭМСС-1, the first electrical network analyzer, was developed and constructed in 1955-56 at the Taganrogskiy radiotekhnicheskiy institut (Taganrog Radiotechnical Institute) by Engineers O. V. Il'yenko and V. I. Usynin, Senior Technician A. A. Filimonov, and Technicians A. F. Yevtushenko and P. A. Tepikin under the supervision of Professor G. Ye. Pukhov, Doctor of Technical Sciences. This computer is used by the PWCH (Rostovskiy inzhenerno-stroitel'nyy institut -- Rostov [-na-Donu] Construction Engineering Institute). 2) The ЭМСС-2 and ЭМСС-4, which simulate a beam under

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Electrical Analog (Cont.)

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flexure along its entire length, were developed at the Laboratoriya elektricheskogo modelirovaniya (Electrical-analog laboratory) of the BACW by K. K. Keropyan; 3) The EMCC-5, used to design plane and three-dimensional frameworks, was developed by G. Ye. Pukhov, O. V. Il'yenko, and P. M. Chegolin. The EMCC-2, EMCC-4 and EMCC-5 were constructed at the Taganrog Radiotechnical Institute under the supervision of Candidate of Technical Sciences A. V. Kalyayev. The modernized EMCC-5M was shown at an exhibition in 1960; 4) The EMCC-6, a modification of the EMCC-5, was developed and constructed in 1956 at the Kiyevskiy institut GVF (Kiev Institute of the Civil Air Fleet) by engineers V. I. Usynin, aspirant G. V. Karandakov, Ye. A. Proskurin, and Senior Technician A. I. Filimonov under the supervision of G. Ye. Pukhov; 5) The EMCC-7, used for direct simulation of regular movable and stationary plane and three-dimensional frameworks, was developed and constructed in 1959 at the Vychislitel'nyy tsentr (Computation Center) of the Academy of Sciences Ukrainian SSR by Engineers G. V. Karandakov,

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Electrical Analog (Cont.)

SOV/6498

V. V. Vasil'yev, G. I. Grezdov, and Ye. A. Proskurin under the supervision of G. Ye. Pukhov; 6) The ЭМСС-8, an experimental computer for checking the simulation principles of irregular frames, was developed by K. K. Keropyan and G. V. Karandakov, and constructed at the Laboratoriya elektricheskogo modelirovaniya (Electrical-analog laboratory) of the PMCM by G. V. Karandakov, Engineer A. V. Yevtushenko, Laboratory Assistants Yu. N. Yevtushenko and Yu. I. Zaporin under the supervision of K. K. Keropyan. 7) The ЭМСС-2, a special analog computer, is used to solve dynamic problems of structural mechanics. The fundamental vibration pitch of plane frameworks (with no more than 13 members) can be directly determined with this computer. The computer was developed and constructed at the Taganrog Radiotechnical Institute by M. M. Sukhomlinov, G. Sh. Avetisov, Yu. A. Povalyayev and Ye. M. Aslanov under the supervision of P. M. Chegolin. The errors in electric-circuit analysis of frameworks are discussed in detail. Valuable comments and instructions for writing this book were given by Professor I. M. Rabinovich, Corresponding

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Electrical Analog (Cont.)

SOV/6498

Member, Academy of Sciences USSR, and Honored Scientist and Technologist of the RSFSR, Professor N. I. Bezukhov. There are 109 references: 93 Soviet, 15 English, 1 German.

TABLE OF CONTENTS (Abridged):

Preface	3
Ch. 1. Fundamentals of Electrical Analog Computation	5
Ch. 2. Simulation of the Flexure of a Simple Beam of Constant and Variable Rigidity, of Free and Constrained Torsion, of a Beam Under Combined Transversal and Axial Loading, and of the Flexure of a Beam on a Continuous Elastic Foundation	21

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L 06368-67

ACC NR: AT6015364

SOURCE CODE: UR/0000/65/000/000/0105/0110

AUTHOR: Afanas'yev, G. K.; Chegolin, P. M.

ORG: none\*

TITLE: A two-channel graph evaluator

SOURCE: AN BSSR. Institut tekhnicheskoy kibernetiki. Vychislitel'naya tekhnika (Computer engineering). Minsk, Nauka i tekhnika, 1965, 105-110

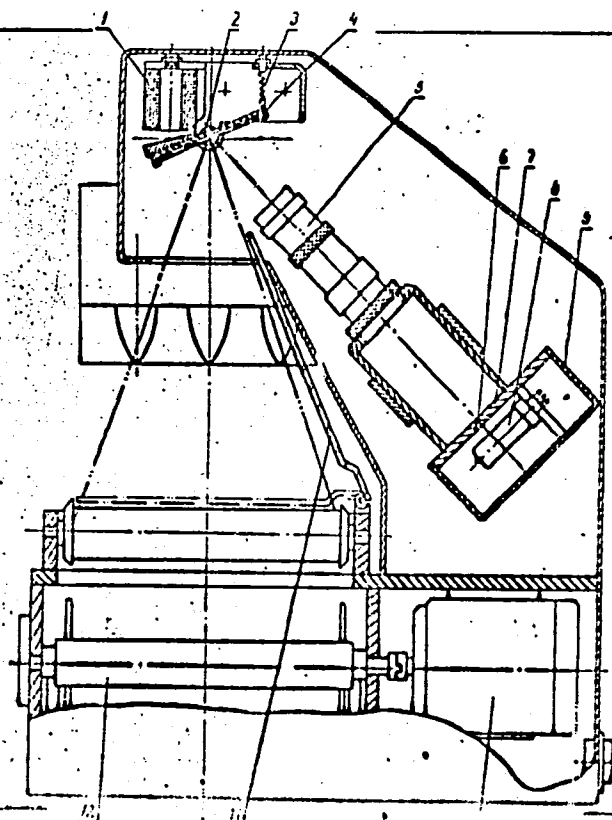
TOPIC TAGS: optic instrument, optic measurement, optic scanning, optic system, graphic data processing, curve follower, analog digital converter

ABSTRACT: The author describes a two-channel optical-electronic automatic graph evaluator. The device, discussed elsewhere by Afanas'yev, is shown in Fig. 1. The scanner (FDG-2) consists of two main units: the opto-mechanical graph scanner and the electronic register and control module. Figure 1 shows the cross-section of the scanner and its main components. The paper or positive photographic film chart containing the graph are driven by the roller (12) through the scanning area. A stepper motor (10) turns the roller (12) in predetermined increments of minimum 0.4 mm. The sampling points for the graph ordinates are therefore determined by the increments of the chart transport. The mirror (4) oscillates about its axis (2) due to the alternating magnetic field of the solenoid (1). The oscillation occurs at the natural mechanical

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ACC NR: AT6015364



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ACC NR: AT6015364

frequency of the system (mirror (4) and spring (3)) of 25 cps. The mirror continuously scans the chart in the direction normal to the chart translation. The ordinate measurement occurs with respect to a plate, containing the base lines, and a scale with fixed divisions formed by alternating black and white lines. The operator can place the base line plate anywhere along the ordinate of the chart. The chart is illuminated by six light sources equipped with parabolic reflectors. The visor (11) is placed on the chart as indicated to mark the origin of graph evaluation. The objective (5) images the total scanning field, including the base line and the scale, into the plane of the wall (7) of the light tight enclosure (9) containing three photomultipliers (8) (only one is shown). There are three small apertures (6) in the wall (7) positioned such that each of the photomultipliers receives the light only from the chart, the base line plate or the scale respectively. The mirror (4) scans all three information sources simultaneously. The impulses from the photomultipliers, which occur whenever there is a change in light intensity due to an intercept of a line, are amplified and fed into a logic circuit which performs the coincidence detection, timing, digitizing and analog voltage generation functions. The graph evaluator can serve as an input unit to a computer in which case the timing is derived from the computer's own clock. If analog, rather than digital information is desired the evaluator is line synchronized. The electronic system is described in detail, including a block diagram. The evaluator is capable of sampling two graphs from one chart simultaneously, generating ordinate values and polarities with respect to the base lines, and maintaining an accuracy of better than 1% for the curve slopes less than  $\pm 87^\circ$ . Orig. art. has: 2 figures

SUB CODE: 09/ SUBM DATE: 15Dec65/ ORIG REF: 000/ OTH REF: 000  
Cord 3/3 *hkh*

L 06363-67 EWT(d)/EWT(m)/EWT(l)/EWT(w) IJP(c) EM/CG/BB/AM/GD

ACC NR: AT6015363

SOURCE CODE: UR/0000/65/000/000/0081/0099

AUTHOR: Chegolin, P. M.

ORG: none

TITLE: Hybrid computer for monitoring the natural mechanical oscillation frequency of a ship

SOURCE: AN BSSR. Institut tekhnicheskoy kibernetiki. Vychislitel'naya tekhnika (Computer engineering). Minsk, Nauka i tekhnika, 1965, 81-99

TOPIC TAGS: computer input unit, computer technology, computer system, computer technique, statistic analysis, research ship instrumentation, marine equipment, gyroscope, gyroscope system, hybrid computer

ABSTRACT: A special purpose shipboard computer for measuring and interpolating the natural mechanical oscillation frequency of a ship is described. The equipment continuously computes the current value of the natural oscillation frequency as a function of the variation in the center of gravity of a ship rolling in a swell. The correlation studies of a ship's rolling motion under arbitrary wave conditions showed certain repetitive amplitude and period characteristics: a. the amplitudes follow the Rayleigh distribution; b. in the region  $\alpha_i > \alpha$  ( $\alpha_i$  is the i-heel,  $\alpha$  is the mean value of the heel from a large number of oscillations) the values of the individual periods are located close to the value of the mean period  $\tau$ ; c. small amplitudes show large dispersion,

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ACC NR: AT6015363

large amplitudes show small dispersion; d. the set of values (points) in the region

$\alpha_i > \alpha$  is characterized by the relation  $\tau/\tau_0 \approx 1$ , where  $\tau_0 = 2\pi \sqrt{\frac{P}{Ih_0}}$  is the true natural

mechanical oscillation period,  $h_0$  is true metacentric height,  $P$  is the displacement,  $I$  is the ship's moment of inertia about the central longitudinal axis; e. the resonant component of the sea swell is weak if  $\alpha_i \leq 2^\circ$ . These data indicate the following functional operations to be carried out by the computer: a. accumulation of the amplitude  $\alpha_i$ , and the period  $\tau_i$  values in its memory; b. calculation of the mean amplitude value  $\alpha$  from a sufficiently large set  $\alpha_i$ ; c. selection from the memory of the period values  $\tau_i$ , corresponding to  $\alpha_i > \alpha$ , and the derivation of the mean period value  $\tau$ ; d. automatic actuation of the alarm signal system if  $\tau > \tau_{crit} (h \leq h_{crit})$ . Calculations showed that for the measurement of the amplitude of a  $50^\circ$  heel with an error of less than 0.05 seconds, an eight digit binary accumulator of the values  $\alpha_i$  and  $\tau_i$  is adequate. The computer consists of a gyro transducer, an arithmetic unit, a control unit, a magnetic memory, and a power supply. The gyro transducer generates analog voltages in response to the ship's rolling motion. The instantaneous voltage amplitude is proportional to instantaneous heel angle and fed from a potentiometer driven by the gyro through an amplifier to a servo type digitizer. The pulses corresponding to the extreme values of each oscillation are utilized within the gyro system to generate digital signals representing the amplitude and period values. The same pulses are also used in the control unit. The arithmetic unit is intended for the calculation of the mean values of

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ACC NR: AT6015363

amplitudes and the half-periods from the data received from the gyro and the memory. The magnetic memory is divided into four sections to store the values of  $a_i$ ,  $t_i$ ,  $a_k$ ,  $t_k$ , where  $a_k$ ,  $t_k$  are the mean values of 32 individual values of  $a_i$  and  $t_i$  respectively. The memory's capacity is 128 eight bit words. The author describes the individual units in great detail, including diagrams, voltage values and functional tables. The experimental tests of the computer showed it to be reliable and suitable for operation by persons without special training. Orig. art. has: 3 figures and 1 table.

SUB CODE: 09/ SUBM DATE: 15Dec65/ ORIG REF: 000/ OTH REF: 000

Card 3/3 MRE

VOLKOVYSKIY, V.L., inzh.; CHEGOLIN, P.M., kand. tekhn. nauk

Digital summator with independent transfer. Vych. tekhn. [MVTU]  
no.3:218-228 '63. (MIRA 17:2)

PONOMAREV, A.A.; CHEGOLYA, A.S.

Use of ruthenium catalysts in the hydrogenation of furan  
compounds. Dokl.AN SSSR 145 no.4:812-814 Ag '62. (MIRA 15:7)

1. Saratovskiy gosudarstvennyy universitet im. N.G.Chernyshevskogo.  
Predstavleno akademikom A.A.Balandinym.  
(Catalysts, Ruthenium) (Furan) (Hydrogenation)

CHEGOLYA, A.S.; PARFENOV, L.A.

Lamp galvanometer for electrochemical measurements. Zav. lab. 29  
no. 8:1013 '63. (MIRA 16:9)

1. Saratovskiy gosudarstvennyy universitet.  
(Galvanometer) (Electrochemical analysis)

POKHMAREV, A.A.; CHEGOIYA, A.S.; SMIRNOVA, N.S.

Liquid-phase hydrogenation of some unisuclear aromatic compounds in the presence of ruthenium catalysts. Dokl. AN SSSR 163 no.2:379-382 J1 '65. (MIRA 18:7)

1. Saratovskiy gosudarstvennyy universitet im. N.G.Chernyshevskogo. Submitted November 9, 1964.

SMIRNOVA, N.S.; CHEGOLYA, A.S.; PONOMAREV, A.A.

Hydrogenation of some aromatic acids and their derivatives  
on ruthenium catalysts. Zhur. org. khim. 1 no.8:1422-1425  
Ag. '65. (MIRA 18:11)

1. Saratovskiy gosudarstvennyy universitet imeni Chernyshevskogo.

L 16174-66 EWT(m)/ENP(j)/T WW/JW/WE/RM  
 AGC NR: AP5025348 SOURCE CODE: UR/0366/65/001/010/1868/1871  
 AUTHOR: Chegolya, A. S.; Smirnova, N. S.; Zhizdyuk, B. I.; Ryzhenko, L. M.;  
Golub, G. I.; Ponomarev, A. A.  
 ORG: Saratov State University im. N. G. Chernyshev (Saratovskiy gosudarstvennyy universitet)  
 TITLE: Hydrogenation of aromatic amines on ruthenium catalysts  
 SOURCE: Zhurnal organicheskoy khimii, v. 1, no. 10, 1965, 1868-1871  
 TOPIC TAGS: hydrogenation, aromatic nitro compound, primary aromatic amine, catalysis, aniline, ruthenium  
 ABSTRACT: Aniline and m- and p-phenylenediamine (I) were hydrogenated in liquid phase on Ru catalysts at 100-170°C to give cyclohexane analogs. All of the Ru catalysts tested gave satisfactory results, however, the rate of hydrogenation decreased in the order  $RuO_2 > Ru-C > Ru-silica$  gel. The presence of an additional  
 Card 1/2 UDC: 542.541 : 547.551/3 : 546.96

L 16174-66

ACC NR: AP5025348

amino or nitro group on the aromatic ring slowed down the reaction. Hydrogenation of I at 80 atm. H. pressure occurred faster in polar solvents (H<sub>2</sub>O, MeOH) than in solvents of lower polarity (EtOH, PrOH, n-amyl alcohol, or dioxane). In a typical experiment, the catalyst was placed in a rotating autoclave, the aromatic amine added in a 3-10-fold amount of solvent, the autoclave pressurized with electrolytic H to 110 atm. and heated in an electric oven. After the H absorption was finished, the catalyst was filtered off, the solvent eliminated, and the residue distilled in vacuo. The hydrogenation of I is highly stereospecific and yields almost exclusively trans-1,4-diaminocyclohexane. Orig. art. has: 2 figures and 1 table.

SUB CODE: 07 / SUBM DATE: 09Nov64 / ORIG/REF: 007 / COTH REF: 005

Card 2/2

CHEGOROVSKIY, A.Kh., inzhener.

Mechanical unloading form railroad platforms. Mekh.stroi. 13  
no.3:19-20 Nr '56. (MIRA 9:6)  
(Loading and unloading)

CHEGOROVSKIY, A.Kh., inzh.

Ripper with forced pressure. Mekh. stroi 15 no.9:7-9 S '58.  
(Bulldozers) (MIRA 11:10)

SICH, A.[Sych, A.]; TELEDIDO, A.; TESLYA, P.; CHEGORYAN, O.[Chehorian, O.];  
POVOLOTSKIY, A.I.[Povolots'kiy, A.I.], red.; LYAMKIN, V., tekhn.  
red.

[New developments on the map of the Ukraine; album of diagram-  
matic maps of economic administrative regions] Nove na karti  
Ukrainy; al'bom kartoskhem ekonomichnykh administratyvnykh raioniv.  
n.p. Derzhpolitvydav URSR, 1961. 14 maps. (MIRA 15:7)  
(Ukraine--Maps)

9.9/10

39999  
S/035/62/000/008/033/090  
A001/A101

AUTHORS: Chegoryan, V. A., Zhebko, V. M.

TITLE: Investigation of horizontal movements of ionization inhomogeneities in the ionosphere over Khar'kov during IGY

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 8, 1962, 67 - 68; abstract 8A450 ("Mezhdunar geofiz. god. Inform. byul.", 1961, no. 3, 24 - 20; English summary)

TEXT: Movements of ionization inhomogeneities in regions E and F of the ionosphere were investigated at two points (a field laboratory in 85 km from Khar'kov and the ionospheric station of the Khar'kov Polytechnic Institute) by the spaced reception method with a small base. In the E region of the ionosphere, measured values of drift velocities are within the range 10 - 230 m/sec. Most frequently occurring velocities are 60 - 100 m/sec in winter and autumn and 40 - 80 m/sec in spring and summer. Directions of inhomogeneities movements in the E region are considerably scattered, depending on the season. Drift velocities of ionization inhomogeneities in the F region vary from 10 to 280 m/sec. In winter

Card 1/2

Investigation of horizontal...

S/035/62/000/008/033/090  
A001/A101

and autumn prevail velocities 70 - 90 m/sec, and in spring and summer - 40-70 m/sec. Dominating drift directions are eastward or westward with deflections to south-east and north. There are 5 references.

I. Zhulin

[Abstracter's note: Complete translation]

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30155  
S/609/61/000/003/003/008  
D039/D112

9.9/10

AUTHORS: Chegoryan, V.A.; Zhebko, V.M.

TITLE: An investigation of the horizontal movements of the ionization heterogeneities in the ionosphere, conducted over Khar'kov in the International Geophysical Cooperation period

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Organizatsionnyy komitet po provedeniyu Mezhdunarodnogo geofizicheskogo goda. Mezhdunarodnyy geofizicheskiy god: 'Informatsionnyy byulleten', no. 3, 1961, 24-29

TEXT: The paper presents results of measurements of the velocity and directional distribution of the drift of ionization heterogeneities in the E and F regions of the ionosphere. The results cover the period from December 1958 to December 1959, and are given for various seasons of the year. The investigation was conducted both at a field laboratory located 85 km from Khar'kov and at the Khar'kovskiy politekhnicheskii institut (Khar'kov Polytechnic Institute). The horizontal drifts were investigated by the method of spaced X

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An investigation of the ...

antenna reception. All observations were carried out in accordance with the approved international program of measuring the drifts in the ionosphere both on the "regular world days", and on other days. The recordings were processed by the method of similar fadings mentioned in the papers of S.N. Mitra (Ref. 1: Statistical analysis of fading of a single downcoming wave from the ionosphere, Proc. of the I.E.E., 1949, v. 96, p. III, 505, and Ref. 2: A Radio Method of Measuring Winds in the Ionosphere, Proc. of the I.E.E., 1949, v. 96, p. III, 441.). The ionospheric station used at the field laboratory is described by V.I. Taran and V.M. Zhebko (Ref. 3: "Mezhdunarodnyy geofizicheskiy god", Inf. byulleten' No 3, Izd-vo AN UkrSSR, 1961) and by V.V. Tolstov and B.G. Bondar' (Ref. 4: "Mezhdunarodnyy geofizicheskiy god", Inf. byulleten' No 1, Izd-vo AN UkrSSR, 1958.). The ionospheric station used at the Khar'kov Polytechnic Institute is described by N.T. Tsymbal (Ref. 5: Izvestiya vuzov MVO, "Radiotekhnika", No 2, 1959, 221.). The observations at the field laboratory were carried out on a near-gyromagnetic frequency. The investigations at the field laboratory were carried out from December 1958 to December 1959 and were based on 230 recordings for the E region and 383

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An investigation of the ...

for the F region. In Khar'kov itself, observations were made from March to August 1959; investigation of the F layer was based on 235 recordings. The measurements made during the period Dec 1958 - Dec 1959 show that in the E zone the velocity of the drift of heterogeneities varies from 10 to 230 m/sec. The most frequently encountered values lie between 40 and 100 m/sec. The main direction of the drift was found to be western and southern with some deviations toward the east and the north. The most frequently encountered values of the drift velocity for spring and summer are 40-80 m/sec, and for winter and autumn 60-100 m/sec. For the F region, the drift velocities vary from 10 to 280 m/sec, most values lying between 30 and 100 m/sec. The main direction of the drift is western and eastern with some northern deviations. The most frequent values of the drift velocity are  $40 \div 70$  m/sec for spring and summer and  $70 \div 90$  m/sec for autumn and winter. Numerical data are given on the directional distribution of the heterogeneities according to season for both the E and the F regions. For the F<sub>2</sub> layer, investigated at the Khar'kov Polytechnic Institute, it was found that the drift velocities lay between 10 and 100 m/sec, most values being  $30 \div 50$  m/sec. The main drift

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D039/2112

An investigation of the ...

directions were north-western and south-western at daytime and south-western and south-eastern at night. A comparison of the results obtained at both places in spring 1959 show that they do coincide with regard to the distribution of the drift velocities, but do not with regard to the distribution of the drift directions. The following conclusions were made: (1) in the F region there is a regular drift of ionization heterogeneities having a velocity of 10 to 280 m/sec. In winter and autumn the most frequently encountered velocity values equal  $70 \div 90$  m/sec, and in summer and spring -  $40 \div 70$  m/sec; (2) the main directions of the drift of heterogeneities in the F region are western or eastern, with deviation to south-east and north; (3) in the E region the measured values of the drift velocity are within the limits of 10-250 m/sec. The most frequent velocity values in winter and autumn are  $60 \div 100$  m/sec, and in spring and summer -  $40 \div 80$  m/sec; (4) in the directions of the drift of heterogeneities in the E region there is a considerable spread according to seasons; (5) the seasonal drift velocities in the E region are somewhat higher than those in the F region. Both authors thank Docent B.L. Kashcheyev for the supervision of this research work and V.V.

Card 4/5

An investigation of the ...

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S/609/61/000/003/003/008  
D039/D112

Tolstov for his valuable remarks during the preparation of the manuscript. There are 2 figures and 5 references; 3 Soviet-bloc and 2 non-Soviet bloc. The references to the two English-language publications read as follows: S.N. Mitra, Statistical analysis of fading of a single downcoming wave from the ionosphere, Proc. of the I.E.E., 1949, v. 96, p. III, 505.; S.N. Mitra, A Radio Method of Measuring Winds in the Ionosphere, Proc. of the I.E.E., 1949, v. 96, p. III, 441.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut (Khar'kov Polytechnic Institute).

X

Card 5/5

L 18872-66 EWP(k)/EWI(m)/EWP(e)/EWP(t) JD

ACC NR: AP5022548

SOURCE CODE: UR/0226/65/000/009/0095/0098

AUTHOR: Chegoryan, V. M.; Mikhalyuk, R. V.; Natanson, E. M.; Rybchinskiy, M. I.

ORG: Institute of General and Inorganic Chemistry, AN UkrSSR (Institut obshchey i neorganicheskoy khimii AN UkrSSR)

TITLE: Express method of determining dispersity of metal powders

SOURCE: Poroshkovaya metallurgiya, no. 9, 1965, 95-98

TOPIC TAGS: metal powder, chemical dispersion, dispersion hardening, sedimentation separation, metallurgic process

ABSTRACT: Results of an investigation of the dispersity of highly disperse metal powders by means of a photosedimentometer are presented. Comparison with results obtained by independent methods shows good agreement. A rational procedure of selection of the dispersion medium in dispersion analysis of certain metal powders is described. Orig. art. has: 3 figures and 2 tables. [Based on authors' abstract.]

SUB CODE: 11/ SUBM DATE: 15Feb65/ ORIG REF: 003/ OTH REF: 006/

[MT]

Card 1/1

CHEGRINETS, N. V.

CHEGRINETS, N. V.

Three air-lift pumping operations using the same compressor installation. Rasved. i okh. nedr 23 no.4:60-61 Ap '57. (MIRA 11:1)

1. Irkutskoye geolupravleniye.  
(Pumping machinery)

CHEGURKO, L.Ye., inzh.; TURKIN, A.N., inzh.

Effectiveness of the placement of circular grooves on the polished surface of the hydraulic pivot of a feed pump. Teploenergetika 12 no.2:44-47 F '65. (MIRA 18:3)

1. Vostochnyy filial Vsesoyuznogo teplotekhnicheskogo instituta, Chelyabinsk.

TURKIN, A.N., inzh.; CHEGURKO, V.Ye., inzh.

Testing of a feed pump with a hydraulic clutch manufactured  
by the Zulzer firm. Elek. sta. 34 no.7:17-24 J1 '63.  
(MIRA 16:8)

BULGARIA

B. CHEHLAROV [Affiliation not given]

"The Staphylococcal Problem and its Military Medical Significance."

Sofia, Voenno Meditsinsko Delo, Vol 7, No 4, Dec 1962; pp 88-91.

Abstract: A general review of various data and reports of increasing incidence of antibiotic-resistant staphylococci as important pathogens in various countries; discussion of counter-measures. Three Bulgarian, 7 Soviet and 4 Western references.

1/1

CHEICHYS, I. A.

"Progress made in Drainage Methods in Other than Chernozem Regions of the USSR, and Its Furthur Development. In the Lithuanian Republic."

Melioration Problems at the Joint Session of the All-Union Academy of Agricultural Sciences imeni V. I. Lenin. Gidrotekhnika i melioratsiya, 1958, Nr 10, pp 61-64. 8-11 July 1958 in Minsk.

Director of the Lithuanian Scientific Research Institute of Melioration.

CHEISHVILI, L.A.

Effect of androgens on structural characteristics of the adrenals  
in mice with mammary tumors. Soob.AN Grus.SSR 25 no.5:613-618 M  
'60. (MIRA 14:1)

1. Akademiya nauk GrusSSR, Institut eksperimental'noy i klinicheskoy  
khirurgii i gematologii, Tbilisi. Predstavleno akademikom K.D.  
Khistavi.

(ANDROGENS)

(ADRENAL GLANDS)

(BREAST--CANCER)

Name: CHEISHVILI, Nikolay Ivlianovich

Dissertation: From the history of 19th century  
Georgia. The Megrel'skiy affliction,  
1853-1867.

Degree: Doc Historical Sci

Affiliation: Batumi Ped Inst

Defense Date, Place: 29 Jun 56, Council of Inst of History  
imeni Dzhavakhishvili, Acad Sci  
Georgian SSR

Certification Date: 21 Sep 57

Source: BMVO 22/57

S/058/60/000/006/005/040  
A005/A001

246450

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 6, p. 77, # 1349

AUTHORS: Cheishvili, O.D., Khutsishvili, G.R.

TITLE: The Behavior of a Polarized Deuteron Beam in a Magnetic Field <sup>19</sup>

PERIODICAL: Tr. In-ta fiz. AN GruzSSR, 1958 (1959), Vol. 6, pp. 53-60 (English summary)

TEXT: The double elastic scattering of deuterons from spinless nuclei in a magnetic field is considered. The expressions for the cross section of the double scattering in the transversal and longitudinal magnetic fields are obtained. It is shown that experiments on scattering in the transversal magnetic field yield an additional information on the scattering amplitude, although they are not sufficient for the complete determination of the amplitude. The method of the article reviewed is a generalization of the method described in the Publication of Mendlovits and Keys (RZhFiz, 1955, No. 2, # 2430). ✓

ASSOCIATION: In-t Fiz. AN GruzSSR (Institute of Physics of the Academy of Sciences of the Gruzinskaya SSR)

L.I. Lapidus

Translator's note: This is the full translation of the original Russian abstract.  
Card 1/1

CHEISHVILI, O.D.

p. 2, 4

PHASE I BOOK EXPLOITATION

SOV/3500

Akademiya nauk Gruzinskoy SSR. Institut fiziki

Trudy, tom 6 (Transactions of the Physics Institute of the Academy of Sciences Gruzinskaya SSR, Vol. 6) Tbilisi, 1958. 282 p.

PURPOSE: This book is intended for physicists and physical chemists, and may be used by students taking advanced courses in physics and physical chemistry.

COVERAGE: This is a collection of articles by members of the Physics Institute on such subjects as helium-II, color centers, polarized deuterons in a magnetic field, effect of gamma-rays on copper oxides, digital computer programs, extensive air showers, effect of thermal gradient on crystals, and the theory of heavy unstable particles. The last article, in Georgian, is a brief resume of the development of physics in Georgia during the past 40 years. Abstracts in English are given after each article. No personalities are mentioned. References accompany each article.

TABLE OF CONTENTS:

Andronikashvili, E. L. Oscillatory and Rotational Studies of Helium-II 3

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SOV/3500

Transactions of the Physics Institute (Cont.)

This article is a review of experimental studies by the method of torsional oscillations and rotation of a disk or a disk system in helium-II. Experiments for investigating the state of rotating helium-II are described in detail.

Andronikashvili, E. L. On the Hydrodynamics of Axial-Torsional Vibrations in a Viscous Fluid 33

In this article the equations which formed the basis for experiments conducted by the author in 1945-1948 to study the density and viscosity of normal component of helium-II are derived.

Gachechiladze, A. I., and N. G. Politov. Color Centers in Alkali Halide Crystals 43

In this article the authors present a short review of investigations conducted by a group of Georgian physicists on the distortion of the periodic structure of crystal lattice on which the optical, electrical and other features of semiconductors largely depend.

Card 2/7

Transactions of the Physics Institute (Cont.)

SOV/3500

Cheishvili, O. D., and G. R. Khutsishvili. Behavior of a Polarized Deuteron Beam in a Magnetic Field

In this article the authors discuss the double elastic scattering of a deuteron beam in a magnetic field, and obtain the expression for its angular distribution. It is shown that more data can be obtained on scattering amplitude and polarization by running the experiment in the presence of a magnetic field than without one.

53

*see abstract card*

Tsetskhladze, T. V., and G. Sh. Kalandadze. Effect of Gamma Rays on the Catalytic Activity of Copper Oxides in the Reaction of Dehydrogenation of Ethyl Alcohol

61

The dependence of the catalytic activity of  $\text{Cu}_2\text{O}$  and  $\text{CuO}$  on the radiation dose received by the catalyst is investigated in the reaction of dehydrogenation of ethyl alcohol. The irradiation induces an increase in  $\text{CuO}$  activity followed by an increase in its resistance and a decrease in  $\text{Cu}_2\text{O}$  activity followed by a decrease in its resistance. The irradiation of the catalyst does not change the mechanism of the reaction.

Card 3/7

Transactions of the Physics Institute (Cont.)

SOV/3500

Chavchanidze, V. V., R. S. Shaduri, and V. A. Kumsishvili. Mosaic Programming Method for Electron-Photon Cascade Calculation by the Monte Carlo Method With Electronic Computers

69

The authors present a detailed digital computer program for the computation of electron-photon cascade by the Monte Carlo method. This program is a synthesis of several subroutines each of which is designed for a specific computational aspect of the cascade phenomena. Each cascade is computed completely before a new cascade is computed. The proposed program can be modified to compute other problems solved by Monte Carlo methods.

Cheishvili, O. D. Polarization of Deuterons in Elastic Scattering

97

In this article the amplitude and total cross section of deuteron elastic scattering by nuclei with zero spin are calculated. The polarization of deuterons in elastic scattering and the differential cross section of scattering of polarized deuterons are also calculated and the differential cross section of their double scattering obtained. It is shown that enough data may be obtained from experiments on triple scattering to determine the amplitude of scattering. The calculated differential cross section of double elastic scattering is compared with experimental results. The phase shifts for deuteron scattering by heavy nuclei are calculated in quasi-classical approximation.

Card 4/7

Transactions of the Physics Institute (Cont.)

SOV/3500

Bibilashvili, M. F. Lateral Distribution of the Penetrating Component of Extensive Air Showers 141

In this article the author studies the lateral distribution of the penetrating component of extensive air showers with a total number of particles between  $10^5$  and  $5 \times 10^7$  in a tunnel at 400 meters above sea level and depth of 65.5 meters water equivalent. The investigation was carried out at distances of 1, 10, 20, 30, 45, and 60 meters from the shower axis.

Mumladze, V. V. Effect of the Thermal Gradient on the Optical Properties of Alkali Halide Salts 165

In this article the effect of thermal gradient in crystals of alkali halide salts is investigated by measuring the absorption coefficient in crystals irradiated by X-rays. After X-irradiation, the absorption coefficient increases in the cold end of the crystal in comparison with that end of the crystal which was not under the action of thermal gradient. It was confirmed that the Schottky defect was the major type of defect occurring in crystals of alkali halides.

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Transactions of the Physics Institute (Cont.)

SOV/3500

Mumladze, V. V. Using the Tagged Atom Method of Investigating Potassium Diffusion Coefficient Changes in KI Crystals Containing Some Impurities of Heavy Elements

169

In this article the diffusion coefficient of  $K^{42}$  was measured in KI crystals containing some impurities of divalent Cd. The diffusion coefficient of K-ion increases with an increase in the quantity of divalent impurities. This increase is explained by the increase of the equilibrium number of isolated vacancies due to dissociation of "complexes" and also due to the transfer of material by some undissociated "complexes."

Matinyan, S. G. Certain Problems in the Theory of Heavy Unstable Particles

173

This article deals with a theoretical investigation of the properties of heavy unstable particles. Energy spectra of  $K_{\mu 3}$  and  $K_{\mu 1}$  decays are investigated. Polarization and correlation phenomena in the decay of hyperons with spin  $1/2$  and spin  $3/2$  are considered taking into account parity nonconservation. From an investigation of these effects important data may be obtained on the problem of parity nonconservation and the problem of time inversion

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Transactions of the Physics Institute (Cont.)

SOV/3500

in decays of hyperons. A strong  $\Pi$ -K interaction as applied to

$\tau^+$ ,  $\tau$ ,  $\tau^0$ ,  $\tau^{\pm}$ ,  $\mu^+$ ,  $\mu^-$  decays is also investigated. A phenomenological investigation of  $\gamma$ -production of strange particles is carried out. The authors propose experiments to check Feaslee's statical model of strange particles production. Some processes of  $\gamma$ -production of strange particles are considered, taking into account the magnetic moments of hyperons and nucleons.

Parkadze, V. Development of Physics in Georgia During the Past 40 Years (Continuation of a Previous Article)

231

AVAILABLE: Library of Congress (QC1.A384 A1)

Card 7/7

TM/edv/fal  
8-17-60

MATINYAN, S.; CHERISHVILI, O.▷

Charge-exchange of elementary particles on nucleons and deuterons.  
Soob. AN Gruz. SSR 22 no.3:281-286 Mr '59.

(MIRA 12:8)

1.AN GruzSSR, Institut fiziki. Predstavleno chlenom-korrespondentom  
AN V.I. Mamasakhlisovym.  
(Particles, Elementary)

21(7)

AUTHORS:

Matinyan, S. G., Cheishvili, O. D.

SOV/56-36-1-28/62

TITLE:

The Polarization Effects in the Capture of a  $\Sigma$ -Hyperon by a Deuteron (Polyarizatsionnyye yavleniya pri zakhvate  $\Sigma$ -giperona deytronom)

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 1, pp 212-215 (USSR)

ABSTRACT:

The present paper deals with the reaction  $\Sigma + d \rightarrow 2n + \Lambda^0$  where the spins of the  $\Lambda$ - and  $\Sigma$ -particles are assumed to be equal to  $1/2$ . This reaction is rather interesting as a source of additional information concerning the degree of polarization of a  $\Sigma$ -particle. In the present paper, the capture of a  $\Sigma$ -hyperon by a deuteron is investigated in momentum approximation. In this approximation, the amplitude of the capture can be written down as  $T_d = J_{12}T(1,2) + J_{13}T(1,3)$ , where the index 1 corresponds to strange particles, and the indices 2 and 3 - to the nucleons of the deuteron. An expression is deduced for the polarization of a  $\Lambda$ -particle produced by the capture of a polarized  $\Sigma$ -particle by a deuteron. In the case of an  $S \rightarrow S$  transition the amplitude of the capture of a  $\Sigma$ -particle

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The Polarization Effects in the Capture of a  $\Sigma^-$ -Hyperon by a Deuteron

SOV/56-36-1-28/62

by a proton is equal to  $T = a_1 \Pi_t(1, 2) + a_2 \Pi_s(1, 2)$  where  $a_1$  and  $a_2$  denote the amplitudes of the transitions

$^3S_1 \rightarrow ^3S_1$  and  $^1S_0 \rightarrow ^1S_0$  of the system strange particle-nucleon.

Definite information concerning the polarization of a  $\Sigma^-$ -particle can be obtained by investigating the asymmetry of the  $\Lambda$ -decay for a capture of a  $\Sigma^-$ -particle from a continuous spectrum and also from an S-orbit. Analogous considerations are given also for the  $S \rightarrow P$ ,  $P \rightarrow S$  and  $P \rightarrow P$  transitions. The authors thank Professor G. R. Khutsishvili for useful discussions and advice. There are 4 references, 2 of which are Soviet.

ASSOCIATION: Institut fiziki Akademii nauk Gruzinskoy SSR (Institute of Physics of the Academy of Sciences, Gruzinskaya SSR)

SUBMITTED: July 2, 1958

Card 2/2

CHEISHVILI, O.D.; GURGENISHVILI, G. Ye.

Shape and width of cyclotron resonance lines. Trudy Inst.  
fiz. AN Gruz. SSR 9:185-190 '63. (MIRA 17:7)

CHEJLAVA, L.; PRIKRYL, A.

Use of palm oil in margarine production. p. 373.

PRUMYSL POTRAVIN. Praha.

Vol. 6, no. 8, 1955.

SOURCE: East European Accessions List (EEAL), LC , Vol. 5, no. 3, March 1956.

CHEKAL', A.I.

Independent planning by sugar factories. Sakh.prom. 27 no.4:21 Ap '53.  
(MLRA 6:6)

1. Selishchanskiy sakharnyy zavod.

(Sugar industry)

CHEKAL', A.I.

Economise repair materials. Sakh.prom.30 no.11:42 N '56. (MLBA 10:2)

1. Selishchanskiy sakharney zavod.  
(Sugar industry--Equipment and supplies)

YAVOYSKIY, V.I., prof., doktor tekhn.nauk; BEKTURSUNOV, Sh.Sh., inzh.;  
CHERNEGA, D.F., kand.tekhn.nauk; TYAGUN-BELOUS, G.S., kand.tekhn.nauk;  
DUDKO, D.A., kand.tekhn.nauk; Prinimali uchastiye: MOLOTKOV, V.A.;  
BELYAYEV, Yu.P.; YAKOBASHA, R.Ya.; AGAMALOVA, L.L.; CHEKALENKO, G.A.;  
BOCHAROV, V.A.; KISSEL', N.N.; POTANIN, Ye.M.; SYTOVA, N.M.

Electric slag heating and additional feed of large sheet  
billets made of 10G2SD steel. Stal' 22 no.7:611-615 JI '62.  
(MIRA 15:7)

(Steel ingots)

(Rolling (Metalwork))

FEDOROV, V.S., inzh.; CHEKALIN, A.M., inzh.

The Schlieker shipyard [from foreign journals]. Sudostroenie  
27 no.11:65-67 N '61. (MIRA 15:1)  
(Germany, West--Shipyards)

ZINOV'YEV, N.P.; CHEKALIN, A.N.

Comparison of two methods for calculating the function of pressure  
for a nonuniform stratum with unsteady fluid flow. Izv.vys.ucheb.  
zav.; neft' i gaz 4 no.7:67-73 '61. (MIRA 14:10)

1. Kazanskiy gosudarstvennyy universitet im. V.I.Ul'yanova-Lenina.  
(Oil reservoir engineering)

CHEKALIN, S. K.

Paper submitted for the 10th All-Union Symposium on Explosives, Leningrad, 10 August 2 September, 1960.

4. Following is a list of the Soviet papers submitted to the combustion symposium:

- |                   |   |
|-------------------|---|
| L. A. Lavender    | The Dependence of Laminar Flame Properties on the Mechanism of Chain Reactions  |
| L. A. Lavender    | The Theory of Flame Propagation in Systems Involving Branched Chain Reactions   |
| N. N. I. I. I.    | On the Mechanism of Non-Adiabatic Initiation in Molecular Collisions  |
| I. I. I. I.       | Some Questions of Analysis Between Combustion in a Thrust Chamber and in a Detonation Wave  |
| I. I. I. I.       | On the Criterion of High-Frequency (acoustic) Vibrations Generation in a Turbulent Combustion Chamber   |
| A. I. I. I.       | A Simple Method for Determining Effective Activation Energies for the Thermal Decomposition and Spontaneous Ignition of Certain Complex Materials |
| L. O. Mal'kovskiy | On the Theory of Detonation Initiation by Impact  |
| P. A. Yezhov      | The Theory of Activation of Gaseous Reactions with Solid Carbon   |
| P. A. Yezhov      | Formation of Dispersed Carbon by Explosion and Thermal Decomposition of Acetylene   |
| T. S. K. P. A.    | Generation of Dispersed Carbon in Hydrocarbon Diffusion Flames  |
| T. S. K. P. A.    | Effect of Dissociation on the Parameters of Reflected Shock Waves in Carbon Monoxide  |
| Z. I. I. I.       | Study of Combustion of Adiabatically Heated Gas Mixtures  |
| I. I. I. I.       | Some Methods for Studying Two-Phase Fuel-Air Mixtures in a Flow   |
| I. I. I. I.       | Propagation of Flame in Turbulent Flow of Two-Phase Fuel-Air Mixtures   |
| I. I. I. I.       | Thermodynamic Properties of Air at High Temperatures  |
| I. I. I. I.       | Condition of Regular Movement of Strong Shocks and Detonation   |
| A. S. Fedorovskiy | Some Remarks on the Regular Movement of Shocks with Cylindrical and Spherical Symmetry  |
| A. S. Fedorovskiy | Regular Motion of Shocks and of Detonation from the Viewpoint of Maxwell's Transfer Equations   |

CHEKALIN, E.K.; SOBOLEV, G.K.

Peculiarities of gas flow in laminar Bunsen flame. Inzh.-fiz.sbur.  
no.4:72-75 Ap '58. (MIRA 11:7)

1.Energeticheskiy institut AN SSSR, g.Moskva.  
(Flame)

83144

S/170/60/003/006/008/011  
B013/B067

11.7200

11.7350

AUTHOR: Chekalin, E. K.

TITLE: Combustion<sup>4</sup> of Atomized Liquid Fuel in a Turbulent Air Current

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 6,  
pp. 87 - 90

TEXT: The special burner shown in Fig. 1, in which a two-phase fuel - air mixture was produced, was used to study the combustion of atomized liquid fuels. All experiments were made with constant air consumption and at an average flow velocity of 15 m/sec in the tube of the burner. Gasoline of the type 570 (B70) was used as fuel. The author studied the influence exercised by the ratio between liquid and gaseous phase, the dimensions of the drops, the summational coefficient of air consumption, and the mean concentration of the drops per unit volume of the current as well as the effect of the mean square velocity of the turbulent pulsation on the turbulent velocity of flame propagation. The results are shown in Fig. 2. Fig. 3 gives the dependence of the turbulent

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